Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] A programmable logic controller comprising:
a backplane of the programmable logic controller;
one or more modules connected to said backplane; said modules capable of communicating over said backplane using the IP protocol;
wherein each module has its own IP address.

[c2] The programmable logic controller of Claim 1 wherein the IP address uses a local addressing schema.

[c3] The programmable logic controller of Claim 2 wherein the local addressing schema is in a form of 192.168.XX.YY.

[c4] The programmable logic controller of Claim 3 wherein a term XX in the addressing schema represents the number of the programmable logic controller.

[c5] The programmable logic controller of Claim 3 wherein a term YY in the addressing schema represents a number describing a position in said backplane.

[c6] The programmable logic controller of Claim 1 wherein the IP protocol is used in conjunction with a TCP proto-

col.

[c7] A method of communication between a first module and a second module on a programmable logic controller backplane comprising :
connecting said first modules to said programmable logic controller backplane wherein the first module is connected to a network of IO modules;
connecting said second module to said programmable logic controller backplane wherein the second module is connected to an Ethernet network;
communicating between said first module and said second module using the IP protocol, where the first module and the second module have their own IP address for backplane communications.

[c8] The method of communication of Claim 7 wherein the Ethernet network is connected to an Internet.

[c9] The method of communication of Claim 7 wherein an addressing schema for the IP address uses a local addressing schema.

[c10] The method of communication of Claim 7 wherein the network of IO modules is an Ethernet network.

[c11] The method of communications of Claim 7 wherein the IP protocol is used in conjunction with a TCP protocol.

[c12] An industrial automation system comprising :
at least one programmable logic controller that is capable of communicating messages to a backplane, wherein the messages are formatted using an IP protocol;
a first network module connected to said backplane that is also connected to an IO network; and
a second network module connected to said backplane that is also connected to an Ethernet network
wherein the programmable logic controller, the first network module, and the second network module each have their own IP address for backplane communications.

[c13] The industrial automation system of Claim 12 wherein said Ethernet network is connected to an Internet.

[c14] The industrial automation system of Claim 12 wherein the IP messages are addressed using a local addressing schema.

[c15] The industrial automation system of Claim 12 wherein the IO network is an Ethernet network.

[c16] The industrial automation system of Claim 12 wherein the IP protocol is used in conjunction with a TCP protocol.